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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/698,756 | 10/31/2003 | Alan Shibata | 200206094-1 | 1819 |

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INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

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| EXAMINER |
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WILLS, MONIQUE M

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| ART UNIT | PAPER NUMBER |
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1795

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| NOTIFICATION DATE | DELIVERY MODE |
|-------------------|---------------|

08/07/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM
mkraft@hp.com
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|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/698,756 | Applicant(s) SHIBATA ET AL. | |
| | Examiner Monique M. Wills | Art Unit 1795 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-38, 45 and 46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-38, 45 and 46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/31/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This Office Action is responsive to the Amendment filed April 30, 2008. The following rejections are overcome:

- Claims 12-18, 20-29 & 33-34 & 36-37 are rejected under 35 U.S.C. 103(a) as being obvious over Gidaspow et al. U.S. Patent 3,823,038 in view of Nakanishi et al. U.S. Patent 6,475,655.
- Claims 19, 35, 38 & 47 are rejected under 35 U.S.C. 103(a) as being obvious over Gidaspow et al. U.S. Patent 3,823,038 in view of Nakanishi et al. U.S. Patent 6,475,655 and further in view of Adams et al. U.S. Pub. 2005/0118468.
- Claims 30-32 are rejected under 35 U.S.C. 103(a) as being obvious over Gidaspow et al. U.S. Patent 3,823,038 in view of Nakanishi et al. U.S. Patent 6,475,655 and further in view of Hockaday U.S. Pub. 2002/0182459.

The pending claims are newly rejected as follows:

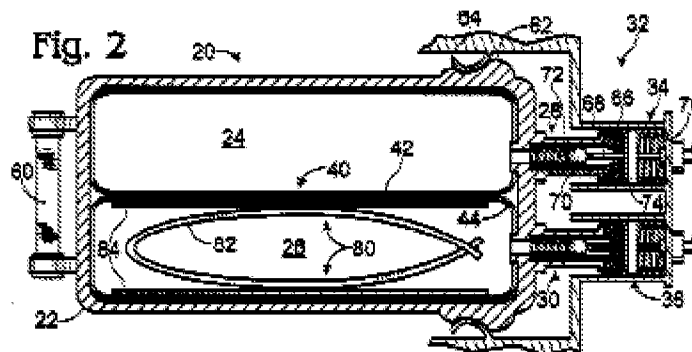
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-18, 21-29 & 33-34 & 36-37 are rejected under 35 U.S.C. 103(a) as being obvious over Prasad et al. U.S. Pub. 2003/0082427 in view of Nakanishi et al. U.S. Patent 6,475,655.

With respect to **claims 12-15, 23 & 28**, the needle is adapted to a housing with a first chamber that contains fuel, and second chamber adapted to receive gaseous fuel, the second chamber by a chamber-separating septum adapted to received the needle. See Figures Figure 1.



With respect to **claim 24**, the fuel cell is connected to a load. Par. 4. With respect to **claims 21 & 36**, the needle enters a fuel cartridge, wherein the first chamber has a inlet pore leading to needle 2. See Figure 1. An inlet pore of the hollow members is received within the second chamber [19]. See figure 1. With respect to **claim 29**, the fuel is hydrogen fuel par. 4. With respect to **claims 33 & 34**, the chamber 34 is partially porous and the chamber 34 covers the end of needle [15] guiding hydrogen gas into the fuel cell. See Figure 1.

Prasad does not expressly disclose: a catalyst material coated on the second distal end of the needle (**claims 16, 17**); the metal is stainless steel (**claims 25-26**). wherein the catalyst is palladium (**claims 18 & 27**); the catalyst material is inserted in the first chamber (**claims 22 & 37**).

Nakanishi teaches that it is well known in the art to employ a palladium bleed tube to charge hydrogen to a fuel cell (paragraph 15). See Figure 1.

Prasad and Nakanishi are analogous art, because they are from the same field of endeavor namely, charging hydrogen to fuel cells through feed tubes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to coat the feed tube of Prasad with the palladium bleed tube material of Nakanishi, in order to catalyze the electrochemical reaction in the fuel cell (**claims 16-18, 22, 27 & 37**).

With respect to **claims 25-26**, it would have been obvious to one of ordinary skill in the art to employ stainless steel needles in the fuel cartridge of Prasad, for their durability and stability in harsh electrochemical environments.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19, 35, 38 & 47 are rejected under 35 U.S.C. 103(a) as being obvious over Prasad et al. U.S. Pub. 2003/0082427 in view of Nakanishi et al. U.S. Patent 6,475,655 and further in view of Adams et al. U.S. Pub. 2005/0118468.

Prasad in view of Nakanishi teach a catalyst coated needle bleed tube feeding a fuel cell as described in the rejection recited hereinabove. Prasad teaches a second chamber with an inlet pore as see Figure 1. With respect to claim 47, the fuel cell contains an electrode and an electrolyte. See par. 3..

However, Prasad does not expressly disclose adapting the fuel cell to recharge a battery (claims 19, 35, 38 & 47).

Adams teaches that it is well known in the art employ batteries as backup supply power for fuel cells and arranging said fuel cells to recharge the battery backup power (par. 149).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ the backup battery supply of Adams in

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the fuel cell system of Prasad in view of Nakanishi, in order to provide pack up power for the fuel cell in order to satisfy electrical load demands.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 30-32 are rejected under 35 U.S.C. 103(a) as being obvious over Prasad et al. U.S. Pub. 2003/0082427 in view of Nakanishi et al. U.S. Patent 6,475,655 and further in view of Hockaday U.S. Pub. 2002/0182459.

Prasad in view of Nakanishi teach a fuel cell comprising a needled catalyst coated bleed tube as described in the rejection recited hereinabove.

Hockaday teaches that it is well known in the art to employ hydrogen flue as an aqueous solution of sodium borohydride suspended in foam material. See paragraphs 66-67.

Prasad, Nakanishi and Hockaday are analogous art from the same field of endeavor namely supplying hydrogen to fuel cells through the employment of bleed tubes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ sodium borohydride in urethane foam of Hockaday in the fuel cell of Prasad in view of Nakanishi, in order to prevent inadvertent hydrogen production in order to protect the environment.

Response to Arguments

Applicant's arguments filed April 30, 2008 have been fully considered but they are persuasive. Therefore, the previous pending rejections have been withdrawn.

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Patrick Ryan, may be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Monique M Wills/

Examiner, Art Unit 1795

/PATRICK RYAN/

Supervisory Patent Examiner, Art Unit 1795